261002

STIC-EIC1600/2900

LES

From: JON ANGELL [JonE.Angell@uspto.gov]
Sent: Tuesday, May 20 2008 1 45 PM
To: STIC-EIC1600/2900
Cc: NPL Feedback
Subject: Database Search Request, Serial Number: 10/696488

Requester: **JON ANGELL (P/1635)**
Art Unit: **P/1635**
Employee Number: [redacted]
Office Location: **REM 02A05**
Phone Number: **(571)272-0756**
Mailbox Number: **2C18**

Case serial number: **10/696488**
Class / Subclass(es): **514/44**
Earliest Priority Filing Date: **5/27/1997**
Format preferred for results: **Paper**
Attachment: **Yes,**
Search Topic Information:

Please search for the structure of formula (I) in claim 1 where A is C(H)(R3)-N(R1)(R2) wherein R1=H, R2=H, R3=H, as indicated in the 4/3/2008 response to the election (attached).

Special Instructions and Other Comments:

I am available 9:30-5:30 M-F at 2-0756. If possible, I would like to have the search results by June 9.

5/20/2008

```
=> fil cap
FILE 'CAPLUS' ENTERED AT 16:49:03 ON 23 MAY 2008
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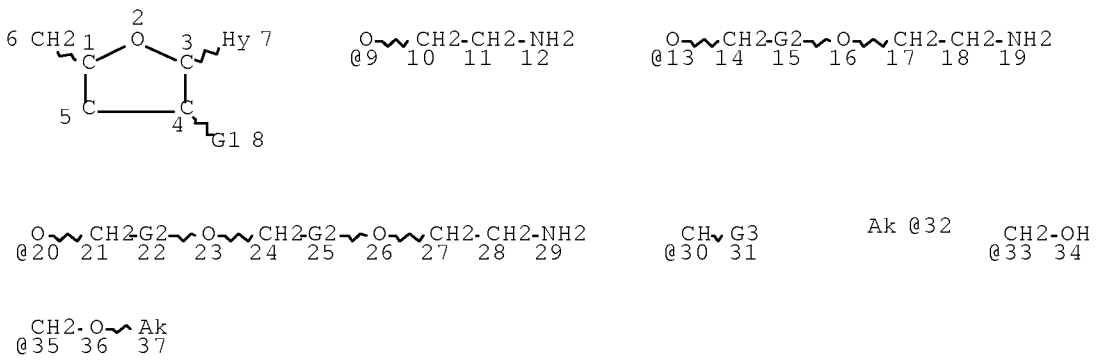
FILE COVERS 1907 - 23 May 2008 VOL 148 ISS 22
FILE LAST UPDATED: 22 May 2008 (20080522/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

http://www.cas.org/legal/infopolicy.html

=> d que l4
L1 STR



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GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 37

STEREO ATTRIBUTES: NONE
L3 4 SEA FILE=REGISTRY SSS FUL L1
L4 9 SEA FILE=CAPLUS ABB=ON PLU=ON L3

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FILE 'WPIX' ENTERED AT 16:49:13 ON 23 MAY 2008

FILE LAST UPDATED: 19 MAY 2008 <20080519/UP>
MOST RECENT THOMSON SCIENTIFIC UPDATE: 200832 <200832/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

>>> IPC Reform backfile reclassifications have been loaded to the end of March 2008. No update date (UP) has been created for the reclassified documents, but they can be identified by 20060101/UPIC and 20061231/UPIC, 20070601/UPIC, 20071001/UPIC, 20071130/UPIC and 20080401/UPIC.
ECLA reclassifications to April and US national classifications to the end of January 2008 have also been loaded. Update dates 20080401/UPEC and /UPNC have been assigned to these. <<<

FOR A COPY OF THE DERWENT WORLD PATENTS INDEX STN USER GUIDE, PLEASE VISIT:
http://www.stn-international.de/training_center/patents/stn_guide.pdf

FOR DETAILS OF THE PATENTS COVERED IN CURRENT UPDATES, SEE
http://scientific.thomsonreuters/support/patents/coverage/latestupdates/

EXPLORE DERWENT WORLD PATENTS INDEX IN STN ANAVIST, VERSION 2.0:
http://www.stn-international.com/archive/presentations/DWPIAnaVist2_0710.pdf

>>> HELP for European Patent Classifications see HELP ECLA, HELP ICO <<<

>>> Updated PDF files in the following links:
http://www.stn-international.de/stndatabases/details/ico_0803.zip
http://www.stn-international.de/stndatabases/details/epc_0803.zip
Supplement of all changed ECLA items:
http://www.stn-international.de/stndatabases/details/ecla_0804s.zip <<<

>>> Please note that the COPYRIGHT notification has changed <<<

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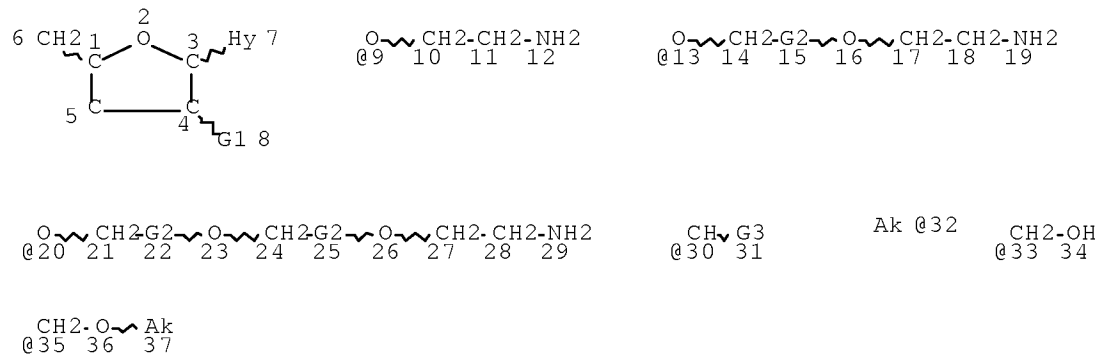

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  37

STEREO ATTRIBUTES: NONE
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FILE 'MARPAT' ENTERED AT 16:49:19 ON 23 MAY 2008
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FILE CONTENT: 1961-PRESENT VOL 148 ISS 20 (20080516/ED)

SOME MARPAT RECORDS ARE DERIVED FROM INPI DATA FOR 1961-1987

MOST RECENT CITATIONS FOR PATENTS FROM MAJOR ISSUING AGENCIES
(COVERAGE TO THESE DATES IS NOT COMPLETE):

US  20080081929 03 APR 2008
DE 102006045603 03 APR 2008
EP      1905420 02 APR 2008
JP   2008072059 27 MAR 2008
WO   2008040000 03 APR 2008
GB      2441892 19 MAR 2008
FR      2906251 28 MAR 2008
RU      2321037 27 MAR 2008
CA      2611532 08 MAR 2008

Expanded G-group definition display now available.

Effective December 15th the iteration and answer limits in MARPAT
have increased from 100,000 to 200,000 for both on-line and batch
searches.  For more information on MARPAT search limits, type HELP
SLIMITS at an arrow prompt.

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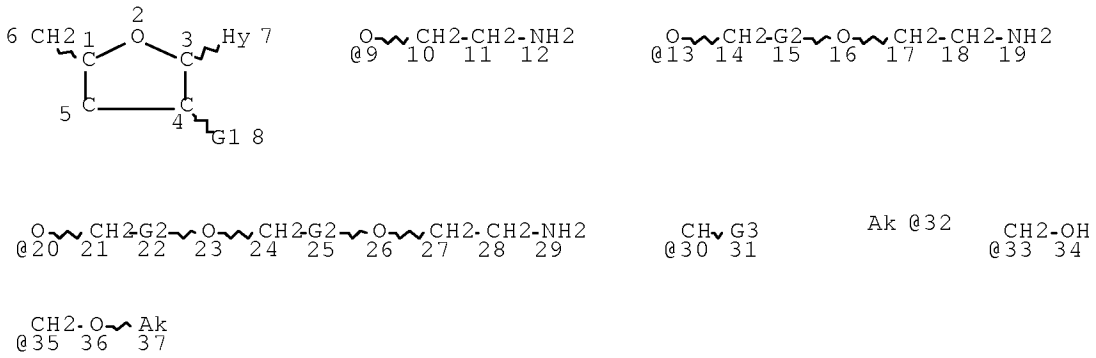

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VAR G1=9/13/20
VAR G2=CH2/30
VAR G3=32/33/35
NODE ATTRIBUTES:
CONNECT IS E1  RC AT  32
CONNECT IS E1  RC AT  37
DEFAULT MLEVEL IS ATOM
GGCAT   IS LOC  SAT  AT  32
GGCAT   IS LOC  SAT  AT  37
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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NUMBER OF NODES IS  37

STEREO ATTRIBUTES: NONE
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FILE 'CAPLUS' ENTERED AT 16:49:24 ON 23 MAY 2008
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FILE 'WPIX' ENTERED AT 16:49:24 ON 23 MAY 2008
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FILE 'MARPAT' ENTERED AT 16:49:24 ON 23 MAY 2008
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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COPYRIGHT (C) 2008 American Chemical Society (ACS)
PROCESSING COMPLETED FOR L4
PROCESSING COMPLETED FOR L7
PROCESSING COMPLETED FOR L12
L13          27 DUP REM L4 L7 L12 (0 DUPLICATES REMOVED)
                ANSWERS '1-9' FROM FILE CAPLUS
                ANSWER '10' FROM FILE WPIX
                ANSWERS '11-27' FROM FILE MARPAT

=> d l13 ibib abs hitstr 1-10;d l13 ibib abs qhit 11-27

L13  ANSWER 1 OF 27  CAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:        2007:238826  CAPLUS  Full-text
DOCUMENT NUMBER:         148:331943
TITLE:                   N,N'-bis-(2-(cyano)ethoxycarbonyl)-2-methyl-2-thio-
                         pseudo-urea: a guanylating reagent for synthesis of
                         2'-O-[2-(guanidinium)ethyl]-modified oligonucleotides
AUTHOR(S):               Prakash, Thazha P.; Puschl, Ask; Manoharan, Muthiah
CORPORATE SOURCE:        Department of Medicinal Chemistry, Isis
                         Pharmaceuticals Inc., Carlsbad, CA, USA
SOURCE:                  Nucleosides, Nucleotides & Nucleic Acids (2007),
                         26(2), 149-159
                         CODEN: NNNAFY; ISSN: 1525-7770
PUBLISHER:               Taylor & Francis, Inc.
DOCUMENT TYPE:           Journal
LANGUAGE:                English
```

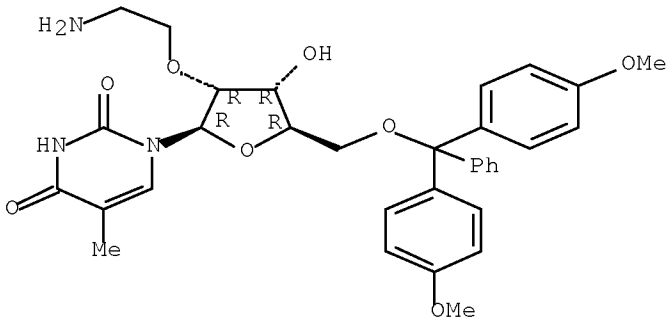
AB A guanylating reagent, N,N'-bis-(2-(cyano)ethoxycarbonyl)-2-thio-pseudo- urea, was synthesized and used for synthesis of 2'-O-[2- (guanidinium)ethyl] (2'-O-GE) modified oligonucleotides via cyclization reaction. A convenient deprotection method for the 2'-O-GE oligonucleotides was developed.

IT 242147-79-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(N,N'-bis-(2-(cyano)ethoxycarbonyl)-2-methyl-2-thio-pseudo-urea as guanylating reagent for synthesis of 2'-O-[2-(guanidinium)ethyl]-modified oligonucleotides)

RN 242147-79-1 CAPLUS

CN Uridine, 2'-O-(2-aminoethyl)-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-5-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 2 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:67953 CAPLUS Full-text

DOCUMENT NUMBER: 144:327203

TITLE: Fluorescence of covalently attached pyrene as a general RNA folding probe

AUTHOR(S): Smalley, Mary K.; Silverman, Scott K.

CORPORATE SOURCE: Department of Chemistry, University of Illinois at Urbana-Champaign, Urbana, IL, 61801, USA

SOURCE: Nucleic Acids Research (2006), 34(1), 152-166
CODEN: NARHAD; ISSN: 0305-1048

PUBLISHER: Oxford University Press

DOCUMENT TYPE: Journal

LANGUAGE: English

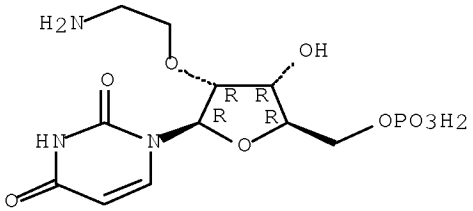
AB Fluorescence techniques are commonly and powerfully applied to monitor biomol. folding. In a limited fashion, the fluorescence emission intensity of covalently attached pyrene has been used as a reporter of RNA conformational changes. Here, the authors pursue two goals: the authors examine the relation between tether identity and fluorescence response, and the authors determine the general utility of pyrene fluorescence to monitor RNA folding. The P4-P6 domain of the Tetrahymena group I intron RNA was systematically modified at multiple nucleotide positions with pyrene derivs. that provide a range of tether lengths and compns. between the RNA and chromophore. Certain tethers typically lead to a superior fluorescence signal upon RNA folding, as demonstrated by equilibrium titrns. with Mg2+. In addition, useful fluorescence responses were obtained with pyrene placed at several nucleotide positions dispersed throughout P4-P6. This suggests that monitoring of

tertiary folding by fluorescence of covalently attached pyrene will be generally applicable to structured RNA mols.

IT 880146-33-8
RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
(fluorescence of covalently attached pyrene as general RNA folding probe in relation to tether lengths and compns.)

RN 880146-33-8 CAPLUS
CN 5'-Uridylic acid, 2'-O-(2-aminoethyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

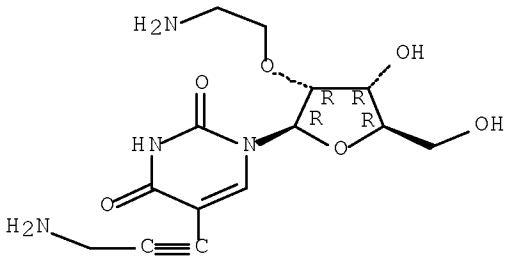
L13 ANSWER 3 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:480331 CAPLUS Full-text
DOCUMENT NUMBER: 143:207771
TITLE: Four base recognition by triplex-forming oligonucleotides at physiological pH
AUTHOR(S): Rusling, David A.; Powers, Vicki E. C.; Ranasinghe, Rohan T.; Wang, Yang; Osborne, Sadie D.; Brown, Tom; Fox, Keith R.
CORPORATE SOURCE: School of Biological Sciences, University of Southampton, Southampton, SO16 7PX, UK
SOURCE: Nucleic Acids Research (2005), 33(9), 3025-3032
CODEN: NARHAD; ISSN: 0305-1048
PUBLISHER: Oxford University Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have achieved recognition of all 4 bp by triple helix formation at physiol. pH, using triplex-forming oligonucleotides that contain four different synthetic nucleotides. BAU [2'-aminoethoxy-5-(3-aminoprop-1- ynyl)uridine] recognizes AT base pairs with high affinity, MeP (3-methyl-2 aminopyridine) binds to GC at higher pHs than cytosine, while APP (6-(3-aminopropyl)-7-methyl-3H-pyrrolo[2,3-d]pyrimidin-2(7H)-one) and S [N-(4-(3-acetamidophenyl)thiazol-2-yl-acetamide)] bind to CG and TA base pairs, resp. Fluorescence melting and DNase I footprinting demonstrate successful triplex formation at a 19mer oligopurine sequence that contains two CG and two TA interruptions. The complexes are pH dependent, but are still stable at pH 7.0. BAU, MeP and APP retain considerable selectivity, and single base pair changes opposite these residues cause a large reduction in affinity. In contrast, S is less selective and tolerates CG pairs as well as TA.

IT 861711-48-0
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(base pair selectivity of synthetic nucleotide; four base recognition by triplex-forming oligonucleotides at physiol. pH)

RN 861711-48-0 CAPLUS
CN Uridine, 2'-O-(2-aminoethyl)-5-(3-amino-1-propynyl)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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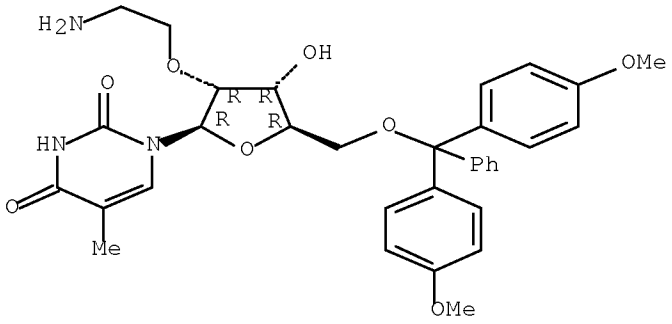
L13 ANSWER 4 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:400638 CAPLUS Full-text
DOCUMENT NUMBER: 141:118826
TITLE: 2'-O-[2-(Guanidinium)ethyl]-Modified Oligonucleotides: Stabilizing Effect on Duplex and Triplex Structures
AUTHOR(S): Prakash, Thazha P.; Pueschl, Ask P.; Lesnik, Elena; Mohan, Venkatraman; Tereshko, Valentina; Egli, Martin; Manoharan, Muthiah
CORPORATE SOURCE: Department of Medicinal Chemistry, Isis Pharmaceuticals, Inc., Carlsbad, CA, 92008, USA
SOURCE: Organic Letters (2004), 6(12), 1971-1974
CODEN: ORLEF7; ISSN: 1523-7060
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:118826
AB Oligonucleotides with a novel 2'-O-[2-(guanidinium)ethyl] (2'-O-GE) modification have been synthesized using a novel protecting group strategy for the guanidinium group. This modification enhances the binding affinity of oligonucleotides to RNA as well as duplex DNA (ΔTm 3.2° per modification). The 2'-O-GE modified oligonucleotides exhibited exceptional resistance to nuclease degradation The crystal structure of a palindromic duplex formed by a DNA oligonucleotide with a single 2'-O-GE modification was solved at 1.16 Å resolution
IT 242147-79-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (guanidinium)ethyl-modified oligonucleotides and interactions with dsDNA and RNA)
RN 242147-79-1 CAPLUS
CN Uridine, 2'-O-(2-aminoethyl)-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-5-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



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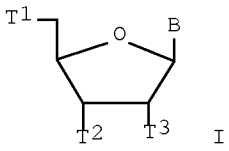
L13 ANSWER 5 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:217995 CAPLUS Full-text
DOCUMENT NUMBER: 138:205306
TITLE: Preparation of guanidinium functionalized oligodeoxyribonucleotide triplexes useful for diagnostic, therapeutic, and investigative purposes
INVENTOR(S): Manoharan, Muthiah; Cook, Phillip Dan; Prakash, Thazha P.; Mohan, Venkatraman
PATENT ASSIGNEE(S): Isis Pharmaceuticals, Inc., USA
SOURCE: U.S., 51 pp., Cont.-in-part of U.S. Ser. No. 349,040.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6534639	B1	20030318	US 2000-612531	20000707
US 6593466	B1	20030715	US 1999-349040	19990707
US 20030092046	A1	20030515	US 2002-247893	20020920
US 6914148	B2	20050705		

PRIORITY APPLN. INFO.: US 1999-349040 A2 19990707
US 2000-612531 A3 20000707
OTHER SOURCE(S): CASREACT 138:205306; MARPAT 138:205306
GI



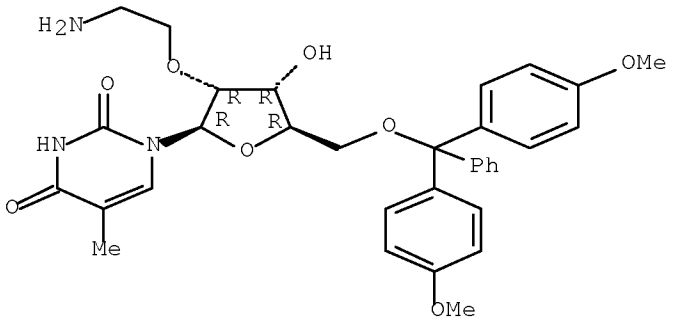
AB The present invention provides oligodeoxyribonucleotide triplexes I wherein B is nucleobase; T1 is OH, protected hydroxyl group; T2 is active phosphorus group, linking moiety attached to a solid support; T3 is H, OH, protected

hydroxyl group, sugar substituent, which are specifically hybridizable with a selected sequence of RNA or DNA wherein at least one of the nucleoside moieties of the oligomer is modified to include a guanidinium group. These oligomers are useful for diagnostic, therapeutic, and investigative purposes. Thus, 5'-O-DMT-2'-O-[2-(N-,N'- cyanoethoxycarbonyloxy-guanidinium)ethyl]-3-O-succinyl-5-methyluridine was prepared and incorporated into DNA triplexes.

IT 242147-79-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of guanidinium functionalized oligodeoxyribonucleotide triplexes useful for diagnostic, therapeutic, and investigative purposes)

RN 242147-79-1 CAPLUS
CN Uridine, 2'-O-(2-aminoethyl)-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-5-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



REFERENCE COUNT: 158 THERE ARE 158 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 6 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2001:31524 CAPLUS Full-text
DOCUMENT NUMBER: 134:116187
TITLE: Preparation of guanidinium functionalized oligodeoxyribonucleotide triplexes
INVENTOR(S): Manoharan, Muthiah; Cook, Phillip Dan; Prakash, Thazha P.; Mohan, Venkatraman
PATENT ASSIGNEE(S): Isis Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 108 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001002423	A2	20010111	WO 2000-US18609	20000707
WO 2001002423	A3	20010503		

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,

LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,
YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,
CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

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EP 1206574	A2	20020522	EP 2000-947107		20000707
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JP 2004500330	T	20040108	JP 2001-507859		20000707
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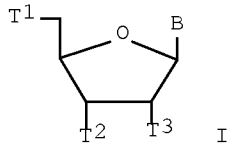
OTHER SOURCE(S): MARPAT 134:116187
GI



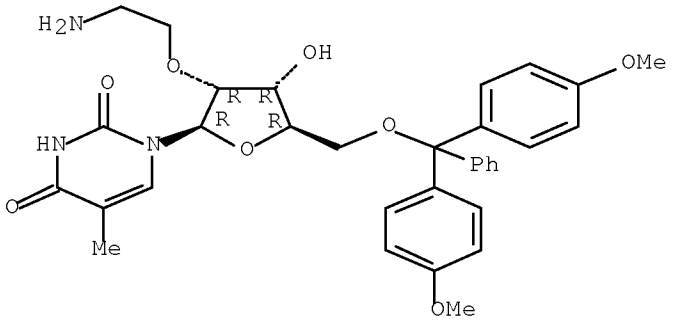
I

AB The present invention provides oligodeoxyribonucleotide triplexes I wherein B is nucleobase; T1 is OH, protected hydroxyl group; T2 is active phosphorus group, linking moiety attached to a solid support; T3 is H, OH, protected hydroxyl group, sugar substituent, which are specifically hybridizable with a selected sequence of RNA or DNA wherein at least one of the nucleoside moieties of the oligomer is modified to include a guanidinium group. These oligomers are useful for diagnostic, therapeutic and investigative purposes. Thus, 5'-O-DMT-2'-O-[2-(N-,N'- cyanoethoxycarbonyloxy-guanidinium)ethyl]-3-O-succinyl-5-methyluridine was prepared and incorporated into DNA triplexes. Methyluridine.

IT 242147-79-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of guanidinium functionalized oligodeoxyribonucleotide triplexes)

RN 242147-79-1 CAPLUS
CN Uridine, 2'-O-(2-aminoethyl)-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-5-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L13 ANSWER 7 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2000:175819 CAPLUS Full-text
DOCUMENT NUMBER: 132:208092
TITLE: Preparation of conjugated electrophilic haloacetyl linked oligonucleotides
INVENTOR(S): Manoharan, Muthiah
PATENT ASSIGNEE(S): Isis Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 65 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000014098	A1	20000316	WO 1999-US19828	19990827
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6335437	B1	20020101	US 1998-149156	19980907
AU 9955899	A1	20000327	AU 1999-55899	19990827
EP 1112279	A1	20010704	EP 1999-942546	19990827
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: US 1998-149156 A1 19980907
WO 1999-US19828 W 19990827

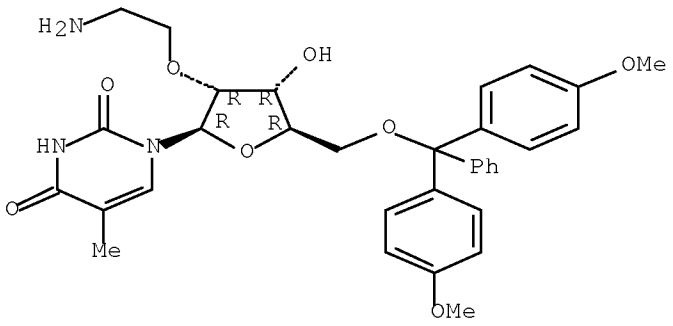
OTHER SOURCE(S): MARPAT 132:208092

AB The present invention provides novel methods for preparing oligonucleotide conjugates R2CH2CONH(CH2)n(Q)xOP(R3)OR1 using a novel electrophilic haloacetyl linker, wherein R1 is a phosphorus protecting group; R2 is chlorine or a pendant group; R3 is substituted amine, heterocycloalkyl, heterocycloalkenyl; x is 0 or 1; n is 1-10; Q is a nucleoside residue. Thus, 3',5'-O-(tetraisopropyldisiloxane-1,3-diyl)-N2-(3-aminopropyl)-9-(2'- deoxy-β-D-erythro-pentafuranosyl)guanosine was prepared and incorporated into oligodeoxyribonucleotides.

IT 242147-79-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of conjugated electrophilic haloacetyl linked oligonucleotides)
RN 242147-79-1 CAPLUS
CN Uridine, 2'-O-(2-aminoethyl)-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-5-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

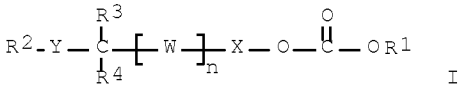


REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 8 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2000:175780 CAPLUS Full-text
DOCUMENT NUMBER: 132:222803
TITLE: Preparation of Oligodeoxyribonucleotides using nucleobase protecting groups
INVENTOR(S): Manoharan, Muthiah
PATENT ASSIGNEE(S): Isis Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000014048	A1	20000316	WO 1999-US19811	19990827
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6166239	A	20001226	US 1998-148763	19980904
AU 9956976	A	20000327	AU 1999-56976	19990827
US 20010053855	A1	20011220	US 2000-745642	20001222
US 6576783	B2	20030610		
PRIORITY APPLN. INFO.:			US 1998-148763 A1	19980904
			WO 1999-US19811 W	19990827

OTHER SOURCE(S): MARPAT 132:222803
GI



I

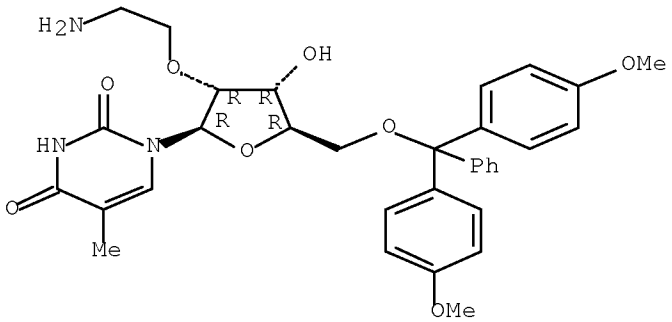
AB Compds. of the invention having general formula I, wherein X is aryl or a covalent bond; Y is aryl or a covalent bond; R1 is selected from succinimid-N-yl, phthalimid-N-yl, pyridin-N-yl, 4-nitophenyl, N-imidazol-1-yl, benzotriazol-2-yl, pyridin-2-yl, pentafluorophenyl, tetrafluorophenyl, triazol-N-yl, tetrazol-N-yl and norbornan-N-yl; R2 is cyano, nitro or CF3; R3 and R4 are each independently selected from the group consisting of H, alkyl, alkenyl, alkynyl, aryl, aralkyl, cycloalkyl and cycloalkylalkyl; W is C(R5)(R6) or C(R7)=C(R7) where each R5, R6, and R7 is independently selected from the group consisting of H, alkyl, alkenyl, alkynyl, aryl, aralkyl, cycloalkyl and cycloalkylalkyl or both R7 substituents together form an unsatd. aromatic ring; and n is an integer from 0 to 7 are useful reagents for protecting amine, guanidine, amidine or hydroxyl groups during organic synthesis. In particular, compds. are useful during oligonucleotide synthesis to protect nucleobase amines as well as tethered amines used for attaching functional moieties to oligonucleotides. .

IT 242147-79-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of oligodeoxyribonucleotides using nucleobase protecting groups)

RN 242147-79-1 CAPLUS

CN Uridine, 2'-O-(2-aminoethyl)-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-5-methyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



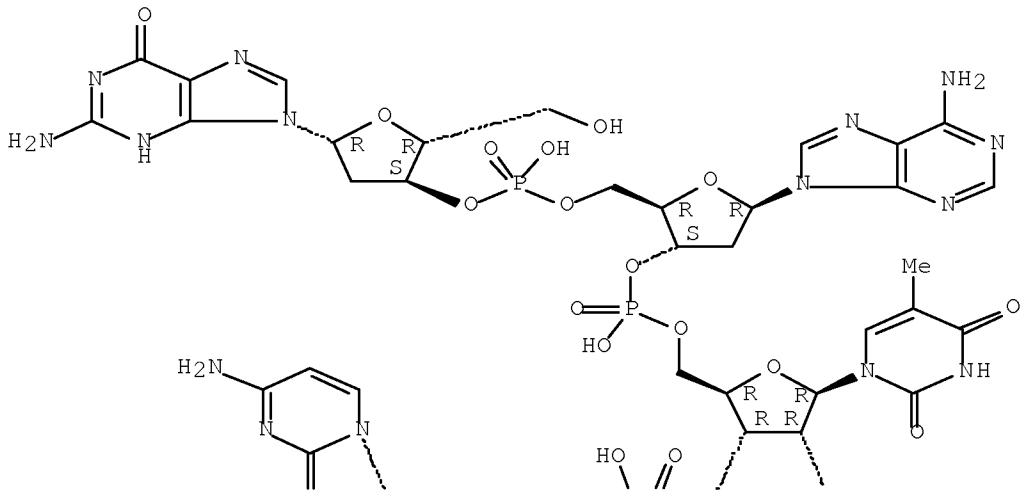
IT 242147-87-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of oligodeoxyribonucleotides using nucleobase protecting groups)

RN 242147-87-1 CAPLUS

CN Thymidine, 2'-deoxyguanylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-O-(2-aminoethyl)-5-methyluridylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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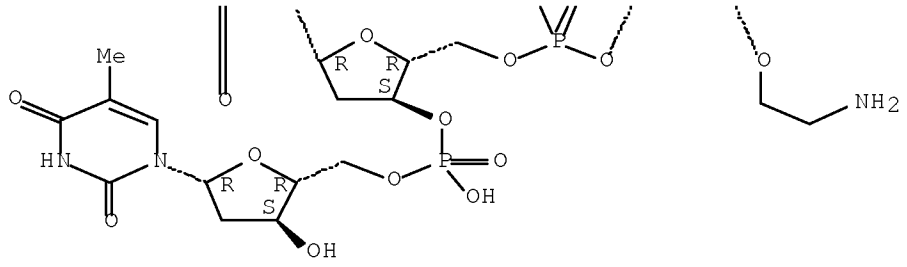


REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 9 OF 27 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1999:469252 CAPLUS Full-text

DOCUMENT NUMBER: 131:228937

TITLE: N-(2-Cyanoethoxycarbonyloxy)succinimide: A New Reagent for Protection of Amino Groups in Oligonucleotides

AUTHOR(S): Manoharan, Muthiah; Prakash, Thazha P.; Barber-Peoc'h, Isabelle; Bhat, Balkrishen; Vasquez, Guillermo; Ross, Bruce S.; Cook, P. Dan

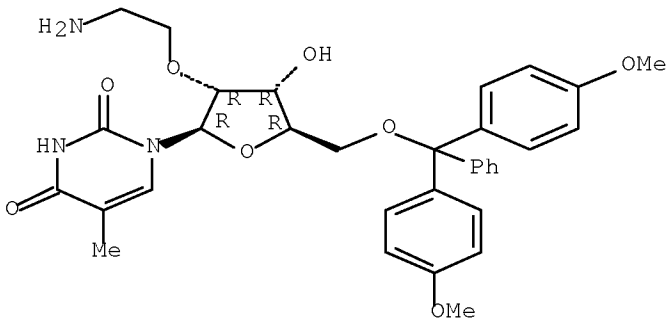
CORPORATE SOURCE: Department of Medicinal Chemistry, Isis Pharmaceuticals, Carlsbad, CA, 92008, USA

SOURCE: Journal of Organic Chemistry (1999), 64(17), 6468-6472
CODEN: JOCEAH; ISSN: 0022-3263
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A convenient crystalline reagent to protect aminolinkers (CEOC-O-succinimide) has been developed and used to protect nucleoside-based 2'-O-alkyl amino-linkers and non-nucleosidic amino-linkers. After oligodeoxyribonucleotide synthesis incorporating these amino-linkers, standard NH4OH treatment removes the CEOC group by β-elimination. The resultant oligodeoxyribonucleotides modified with 2'-O-alkylamines stabilize antisense oligomers toward RNA binding. Amino-linkers generated by this new method are also useful for conjugation chemical In addition to the potential applications in the nucleic acid field, the CEOC reagent is of general use for amino groups in all classes of compds.

IT 242147-79-1P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(N-(2-cyanoethoxycarbonyloxy)succinimide as new reagent for protection of amino groups in preparation of oligodeoxyribonucleotides)
RN 242147-79-1 CAPLUS
CN Uridine, 2'-O-(2-aminoethyl)-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-5-methyl- (9CI) (CA INDEX NAME)

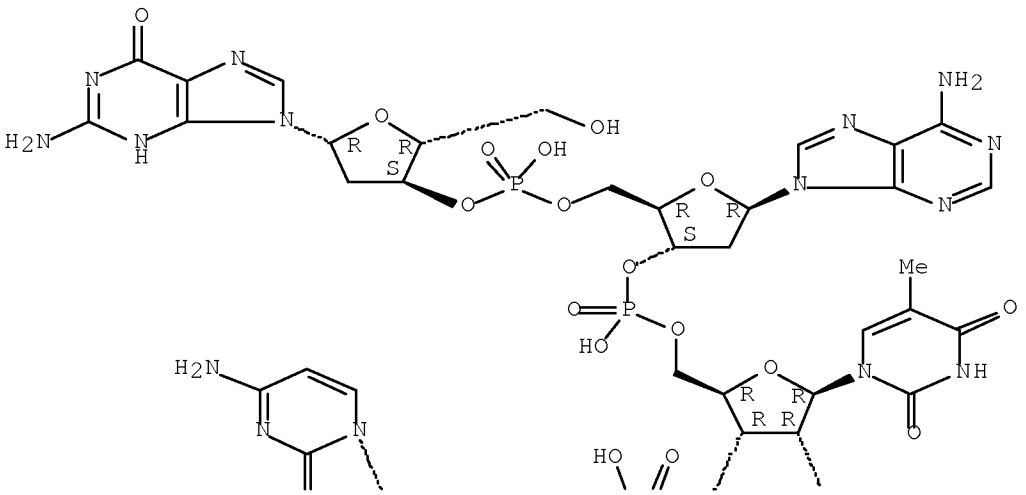
Absolute stereochemistry.



IT 242147-87-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(N-(2-cyanoethoxycarbonyloxy)succinimide as new reagent for protection of amino groups in preparation of oligodeoxyribonucleotides)
RN 242147-87-1 CAPLUS
CN Thymidine, 2'-deoxyguanylyl-(3'→5')-2'-deoxyadenylyl-(3'→5')-2'-O-(2-aminoethyl)-5-methyluridylyl-(3'→5')-2'-deoxycytidylyl-(3'→5')- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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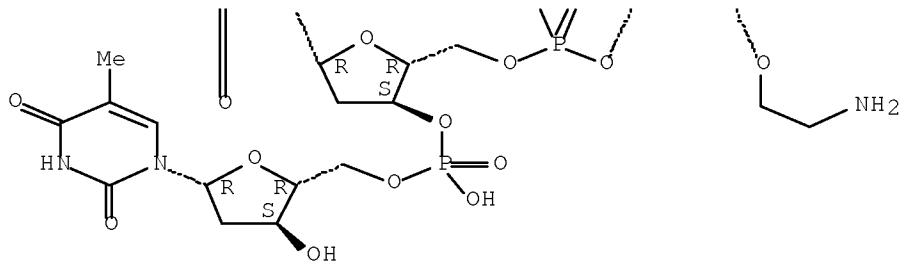


REFERENCE COUNT: 27 THERE ARE 27 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 10 OF 27 WPIX COPYRIGHT 2008 THOMSON REUTERS on STN
ACCESSION NUMBER: 2004-031184 [03] WPIX
CROSS REFERENCE: 2001-138119; 2003-644179; 2004-118052
DOC. NO. CPI: C2004-010287 [03]
TITLE: New oligomers containing guanidinium groups, useful for modulating gene expression by hybridizing oligomer with single- or double-stranded nucleic acids
DERWENT CLASS: A96; B04; D16
INVENTOR: COOK P D; MANOHARAN M; MOHAN V; PRAKASH T P
PATENT ASSIGNEE: (COOK-I) COOK P D; (ISIS-N) ISIS PHARM INC; (MANO-I) MANOHARAN M; (MOHA-I) MOHAN V; (PRAK-I) PRAKASH T P
COUNTRY COUNT: 1

PATENT INFO ABBR.:

PATENT NO	KIND	DATE	WEEK	LA	PG	MAIN IPC

US 20030092046 A1 20030515 (200403)* EN 54[22]
US 6914148 B2 20050705 (200544) EN

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
US 20030092046	A1 CIP of	US 1999-349040	19990707
US 20030092046	A1 Div Ex	US 2000-612531	20000707
US 20030092046	A1	US 2002-247893	20020920
US 6914148	B2 CIP of	US 1999-349040	19990707
US 6914148	B2 Div Ex	US 2000-612531	20000707
US 6914148	B2	US 2002-247893	20020920

FILING DETAILS:

PATENT NO	KIND	PATENT NO
US 6914148 B2	Div ex	US 6534639 B
US 6914148 B2	CIP of	US 6593466 B

PRIORITY APPLN. INFO: US 2002-247893 20020920
US 1999-349040 19990707
US 2000-612531 20000707

AN 2004-031184 [03] WPIX
CR 2001-138119; 2003-644179; 2004-118052
AB US 20030092046 A1 UPAB: 20060120
NOVELTY - An oligomer comprising several nucleotide units (I), is new.
DETAILED DESCRIPTION - An oligomer comprising several nucleotide units of formula (I), is new.
B = heterocyclic base (optionally substituted by R1;
T1, T2 = OH, protected OH, nucleotide, nucleoside, or oligonucleotide; and
T3 = H, OH, protected OH or sugar substituent group; or
T3 = at least one R1, occurring at the 3'-end or 5'-end;
R1 = a group of formula (i) or (ii);
Z = single bond, O, N or S;
R2-R4, R'3, R'4 = H, C(O)R5, or 1-10C alkyl, 2-10C alkenyl or 2-10C alkynyl (all optionally substituted by OH, NH2, alkoxy, carboxy, benzyl, phenyl, NO2, SH, thioalkoxy, halo, alkyl, aryl, alkenyl or alkynyl), alkylsulfonyl, arylsulfonyl, chemical functional group or conjugate group; or
R3+R4 = R7;
R'3+R'4 = R'7;
R5 = 1-10C alkyl, CF3, cyanoethyloxy, OMe, OEt, Ot-Bu, allyloxy, 9-fluorenylmethoxy, 2-(trimethylsilyl)-ethoxy, 2,2,2-trichloroethoxy, benzyloxy, butyryl, iso-butyryl, phenyl or aryl;
R7, R'7 = H or forms a phthalimide moiety with the N atom to which it is attached;
m = 0-1; and
n = 1-6.
INDEPENDENT CLAIMS are also included for:
(1) monomer units of formula (I');
(2) preparation of (I); and
(3) compounds of formula (II)-(VI).
T'1 = T1;
T'2 = an activated phosphorous group or a linking moiety attached to a solid support;
T'3 = T3; or
T'1, T'2 and/or T'3 = R1;
CPG = controlled pore glass protecting group;

DMT = dimethoxytrityl protecting group;

X1 = cyanoethyloxy, benzyloxy, t-butoxy, methoxy, ethoxy, allyloxy, 9-fluorenylmethoxy, 2-(trimethylsilyl)-ethoxy, 2,2,2-trichloroethoxy, trifluoromethyl, butyryl, iso-butyryl, phenyl or aryl;

X2 = 3-10C alkyl, 6-24C aryl, 6-24C heteroaryl, 4-20C alicyclic, 4-20C alicyclic having at least one heteroatom, nucleoside, nucleotide or oligonucleotide;

Y1 = OH protecting group;

Y2 = activated phosphorous group or a linking moiety attached to a solid support; and

R6, R'6 = CF3, cyanoethyloxy, OMe, OEt, Ot-Bu, allyloxy, 9-fluorenylmethoxy, 2-(trimethylsilyl)-ethoxy, 2,2,2-trichloroethoxy, benzyloxy, butyryl, iso-butyryl, phenyl or aryl.

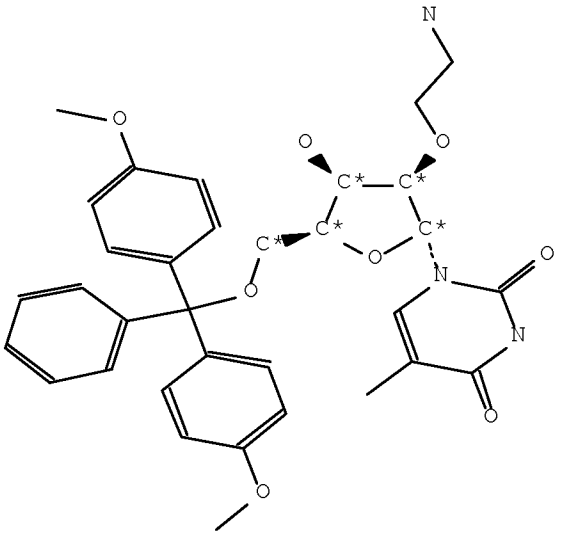
USE - The oligomers are useful for modulating gene expression which involves hybridizing with single-stranded or double-stranded nucleic acids (claimed).

DESCRIPTION OF DRAWINGS - The figure shows binding affinity of 2'-O-(2-(guanidinium)ethyl) modified oligonucleotides as a function of position in placement compared to 2'-aminopropyl and 2'-O- dimethylaminoethyloxyethyl (DMAEOE).

AN.S DCR-789658

CN.S 1-{3-(2-Amino-ethoxy)-5-[bis-(4-methoxy-phenyl)-phenyl-methoxymethyl]-4-hydroxy-tetrahydro-furan-2-yl}-5-methyl-1H-pyrimidine-2,4-dione

SDCN RABXZ8



L13 ANSWER 11 OF 27 MARPAT COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 148:26120 MARPAT Full-text

TITLE: Small interfering double-stranded RNAs with chemically modified oligonucleotide chains that facilitate RISC loading for RNA interference of gene expression

INVENTOR(S): Swayze, Eric E.; Bhat, Balkrishen; Griffey, Richard H.; Prakash, Thazha P.; Allerson, Charles
PATENT ASSIGNEE(S): Isis Pharmaceuticals, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 66pp., Cont.-in-part of U.S. Ser. No. 946,147.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 47
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20070275921	A1	20071129	US 2007-569929	20070802
US 5898031	A	19990427	US 1996-659440	19960606
US 6107094	A	20000822	US 1997-870608	19970606
EP 1600506	A2	20051130	EP 2004-78165	19970606
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EP 1621545	A2	20060201	EP 2004-78164	19970606
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US 20020165189	A1	20021107	US 2002-78949	20020220
US 20040147023	A1	20040729	US 2003-701265	20031104
US 20050053976	A1	20050310	US 2004-859825	20040603
WO 2005120230	A2	20051222	WO 2004-US17485	20040603
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WO 2005121368	A1	20051222	WO 2004-US17522	20040603
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US 20050130923	A1	20050616	US 2004-946147	20040920
WO 2005121370	A2	20051222	WO 2005-US19217	20050602
WO 2005121370	A3	20060526		
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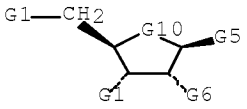
US 20080039618 A1 20080214 US 2007-871436 20071012
PRIORITY APPLN. INFO.: US 1996-659440 19960606
US 1997-870608 19970606
US 2000-479783 20000107
US 2002-78949 20020220
US 2002-423760P 20021105
US 2003-503271P 20030915
US 2003-503997P 20030918
US 2003-701265 20031104
US 2004-859825 20040603
WO 2004-US17485 20040603
WO 2004-US17522 20040603
US 2004-584045P 20040629
US 2004-607927P 20040907
US 2004-946147 20040920
WO 2005-US19217 20050602
EP 1997-929875 19970606
US 2003-701285 20031104

AB The present invention provides double-stranded compns. wherein one of the strands is useful in, for example, influencing the preferential loading the opposite strand into the RISC (or cleavage) complex. In particular, the present invention provides oligomeric compds. that comprise chemical modifications in at least one of the strands to drive loading of the opposite strand into the RISC (or cleavage) complex. Such modifications can be used to increase potency of duplex constructs that have been modified to enhance stability. Examples of chemical modifications that drive loading of the second strand include, but are not limited to, MOE (2'-O(CH2)2OCH3), 2'-O-Me, -Et, -Pr, and -N-methylacetamide. Such modifications can be distributed throughout the strand, or placed at the 5' and/or 3' ends to make a gapmer motif on the sense strand. The activity of the 4'-thio gapmer RNA antisense strand can be improved by incorporating alternating MOE or MOE gapmer motif into the sense strand.

MSTR 1



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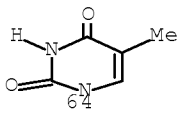

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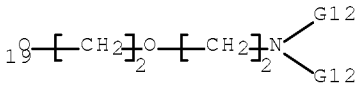

G10 = O
Patent location: claim 1

L13 ANSWER 12 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 144:81963 MARPAT Full-text
TITLE: Double-stranded RNA compounds which facilitate RISC loading
INVENTOR(S): Swayze, Eric E.; Bhat, Balkrishen; Griffey, Richard H.; Prakash, Thazha P.; Allerson, Charles
PATENT ASSIGNEE(S): Isis Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 127 pp., which which which
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 47
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005121370	A2	20051222	WO 2005-US19217	20050602
WO 2005121370	A3	20060526		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
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WO 2005120230	A2	20051222	WO 2004-US17485	20040603
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WO 2005121368	A1	20051222	WO 2004-US17522	20040603
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US 20050130923	A1	20050616	US 2004-946147	20040920
EP 1765415	A2	20070328	EP 2005-756325	20050602
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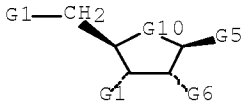
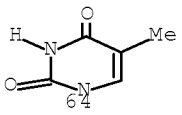
US 20070275921	A1	20071129	US 2007-569929	20070802
PRIORITY APPLN. INFO.:			US 2004-859825	20040603
			WO 2004-US17485	20040603
			WO 2004-US17522	20040603
			US 2004-584045P	20040629
			US 2004-607927P	20040907
			US 2004-946147	20040920
			US 1996-659440	19960606
			US 1997-870608	19970606
			US 2000-479783	20000107
			US 2002-78949	20020220
			US 2002-423760P	20021105
			US 2003-503271P	20030915
			US 2003-503997P	20030918
			US 2003-701265	20031104
			WO 2005-US19217	20050602

AB The present invention provides double stranded compns. wherein one of the strands is useful in, for example, influencing the preferential loading of the opposite strand into the RISC (or cleavage) complex. In particular, the present invention provides oligomeric compds. that comprise chemical modifications in at least one of the strands to drive loading of the opposite strand into the RISC (or cleavage) complex. Such modifications can be used to increase potency of duplex constructs that have been modified to enhance stability. Examples of chemical modifications that drive loading of the second strand include, but are not limited to, MOE (2'-O(CH2)2OCH3), 2'-O-Me, -Et, -Pr, and -N-methylacetamide. Such modifications can be distributed throughout the strand, or placed at the 5' and/or 3' ends to make a gapmer motif on the sense strand. The activity of the 4'-thio gapmer RNA antisense strand can be improved by incorporating alternating MOE or MOE gapmer motif into the sense strand.

MSTR 1



G5 = 64



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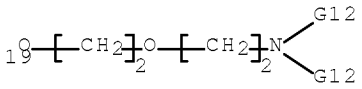

G10 = O
Patent location: claim 1

L13 ANSWER 13 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 141:49377 MARPAT Full-text
TITLE: Process for nano-filtration membrane purifying oligonucleotide synthons
INVENTOR(S): Mccormac, Paul; Hargreaves, Stephen
PATENT ASSIGNEE(S): Avecia Limited, UK
SOURCE: PCT Int. Appl., 9 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004055037	A2	20040701	WO 2003-GB5474	20031216
WO 2004055037	A3	20040916		
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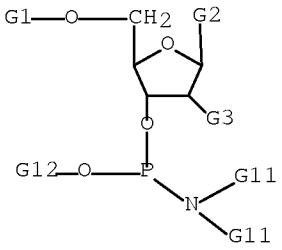
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2510483	A1	20040701	CA 2003-2510483	20031216
AU 2003288553	A1	20040709	AU 2003-288553	20031216
EP 1590361	A2	20051102	EP 2003-780394	20031216
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1726223	A	20060125	CN 2003-80106420	20031216
JP 2006512336	T	20060413	JP 2004-559907	20031216
IN 2005DN02791	A	20061229	IN 2005-DN2791	20050623
US 20060135760	A1	20060622	US 2006-539202	20060126
PRIORITY APPLN. INFO.:			GB 2002-29423	20021218
			WO 2003-GB5474	20031216

AB A process for the purification of an oligonucleotide synthon is provided. The process comprises subjecting an organic solution comprising an oligonucleotide synthon and lower mol. weight impurities to nanofiltration whereby the ratio of an oligodeoxyribonucleotide synthon to lower mol. weight impurities in the solution is increased after the nano-filtration. Preferably, the oligonucleotide synthon is a nucleoside phosphoramidite or nucleoside H-phosphonate. The nano-filtration membrane STARMEM is preferably a polyimide membrane having a mol. weight cut off of 400.

MSTR 1



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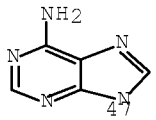
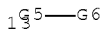


G3 = 11

G4 = 13



G5 = (1-6) CH2
G6 = NH2
Patent location: claim 3

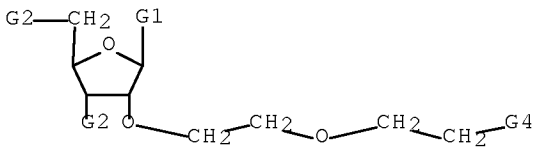
L13 ANSWER 14 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 140:105281 MARPAT Full-text
TITLE: 2'-O-Modified ribosyl nucleosides and methods of enhancing renal uptake of oligonucleotides
INVENTOR(S): Manoharan, Muthiah; Cook, Phillip Dan

PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 21 pp., Cont.-in-part of U.S. 6,600,032.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

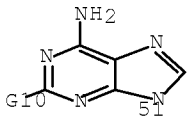
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040009938	A1	20040115	US 2003-359328	20030206
US 6043352	A	20000328	US 1998-130566	19980807
US 6600032	B1	20030729	US 1999-370625	19990806
PRIORITY APPLN. INFO.:			US 1998-130566	19980807
			US 1999-370625	19990806

AB 2'-O-Modified ribosyl nucleosides and modified methods containing such nucleosidic monomers are disclosed. Methods are disclosed that have increased binding affinity as shown by mol. modeling expts. Methods are also disclosed for enhancing the renal uptake of oligomeric compds. as shown using a two-step HRP imunohistochem. assay. The 2'-O-modified nucleosides of the invention include ring structures that position the sugar moiety of the nucleosides preferentially in 3' endo geometries.

MSTR 1



G1 = 51



G4 = 20

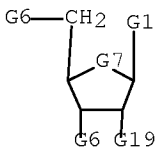
Patent location: claim 1

L13 ANSWER 15 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 140:106457 MARPAT Full-text
TITLE: Synthesis of mutagen-coupled modified oligonucleotides and their use in targeted DNA modification of S phase-synchronized animal cells
INVENTOR(S): Seidman, Michael M.; Puri, Nitin; Majumdar, Alokes
PATENT ASSIGNEE(S): Dept. of Health & Human Services, USA
SOURCE: U.S. Pat. Appl. Publ., 59 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

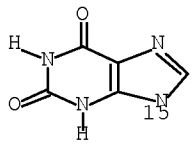
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20040009602	A1	20040115	US 2003-438076	20030513
PRIORITY APPLN. INFO.:			US 2002-378025P	20020513

AB This invention relates to the synthesis of mutagen-coupled modified oligonucleotides and their use in targeted DNA modification of S phase-synchronized fertilized eggs. The precursor of modified oligonucleotides, 2'-AE-5-methyluridine controlled pore glass (CPG), was prepared by addition of 4-(Dimethylamino)pyridine (0.64 mmol) to 5'-O-(4,4'-Dimethoxytrityl)-5-methyluridine-2'-O-(2-aminoethoxy) (1) (0.643 mmol) over 1 h. This yielded 5'-O-(4,4'*Dimethoxytrityl)-5- methyluridine-2'-O-(2-aminoethyl)-3'-O-Succinate (2) (85% yield). Reaction of compound (2) with N,N-diisopropylethylamine (0.5 mmol), O-(7-azabenzotriazol-1 yl)-1,1,2,2-tetramethyluronium hexafluorophosphate (0.2 mmol), and finally with acid treated long chain alkylamine-CPG (90 μmol/g) for 16 h, yielded 5'-O-(4,4'-dimethoxytrityl)-5-methyluridine- 2'-O-methyl-3'-O-succinimido-N6-hexanamido-N3-propyl-controlled pore glass (3) (30 μmol/g). Compound (3) was then used in the synthesis of modified oligonucleotides, including triplex forming oligonucleotides, peptide nucleic acids and polyamides. The primary benefit of mutagen-coupled modified oligonucleotides is the sequence specific targeting of the oligonucleotide to the target sequence in the cell genome, directing the mutagen to the desired site of mutagenesis. Further, introduction of the mutagen during S phase induces a higher rate of mutagenesis, compared to other cell cycle phases. Examples shown include use of these mutagens in targeted mutagenesis of the HPRT (hypoxanthine phosphoribosyl transferase) gene in animal cells. Targeted mutagenesis has the potential to be applied towards gene therapy of human diseases, by alteration of mutant genes in human cells and incorporation of such cells into a patient.

MSTR 1

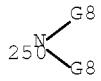


G1 = 15



G7 = O
G17 = CH2CH2
G19 = 170 / 253 / 256 / 259

G20 = O
G21 = 250



Patent location: claim 1

L13 ANSWER 16 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 138:90027 MARPAT Full-text
TITLE: Preparation of oligodeoxyribonucleotides via condensation reaction using 1,1-dioxo-1,2-dihydro-1λ6-benzo[d]isothiazol-3-one salt activators
INVENTOR(S): Sinha, Nanda; Zedalis, William Edward; Miranda, Gregory Keith
PATENT ASSIGNEE(S): Avecia Biotechnology Inc., USA; Avecia Limited
SOURCE: PCT Int. Appl., 43 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003004512	A1	20030116	WO 2002-GB3029	20020701

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CA 2452205	A1	20030116	CA 2002-2452205	20020701
AU 2002319409	A1	20030121	AU 2002-319409	20020701
EP 1404696	A1	20040407	EP 2002-748994	20020701
EP 1404696	B1	20060208		
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CN 1549820	A	20041124	CN 2002-817156	20020701
AT 317395	T	20060215	AT 2002-748994	20020701
ES 2258151	T3	20060816	ES 2002-748994	20020701
HU 2004000151	A2	20070828	HU 2004-151	20020701
IN 2003DN02244	A	20060120	IN 2003-DN2244	20031223
US 20060041114	A1	20060223	US 2004-482441	20040813
IN 2005DN02792	A	20061229	IN 2005-DN2792	20050623
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			WO 2002-GB3029	20020701
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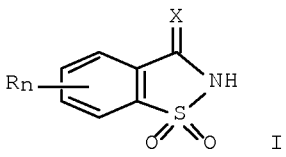
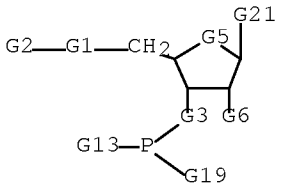


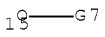
I

AB A process for the synthesis of oligonucleotides using phosphoramidite chemical is provided. The process employs as activator a 1,1-dioxo-1,2-dihydro-1λ6-benzo[d]isothiazol-3-one, preferably in the presence of an organic base. The 1,1-dioxo-1,2-dihydro-1λ6- benzo[d]isothiazol-3-one is represented by the following structural formula I; wherein n is 0 or an integer from 1 to 4; X is O or S; R for each occurrence is a substituent, preferably each independently, a halo, a substituted or unsubstituted aliphatic group, -NR1R2, -OR3, -OC(O)R3, -C(O)OR3, or cyano; or two adjacent R groups taken together with the carbon atoms to which they are attached form a six membered saturated or unsatd. ring; R1 and R2 are each, independently, H, a substituted or unsubstituted aliphatic group, a substituted or unsubstituted aryl group, or a substituted or unsubstituted aralkyl group; and R3 is a substituted or unsubstituted aliphatic group, a substituted or unsubstituted aryl group, or a substituted or unsubstituted aralkyl group. Preferred organic bases are pyridine, 3-methylpyridine, or N-methylimidazole. Thus, 5'-TCTCCCAGCGTGCGCCAT-3' was prepared via condensation reaction using salt activator 1,1-dioxo-1,2-dihydro-1λ6-benzo[d]isothiazol-3-one and N-methylimidazole.

MSTR 2



G5 = O
G6 = 15



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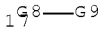

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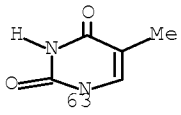
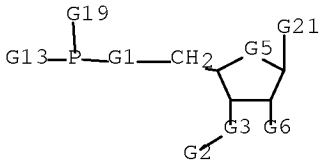
G9 = 20

G21 = 63



Patent location: claim 32

MSTR 3



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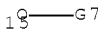

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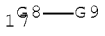
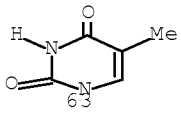


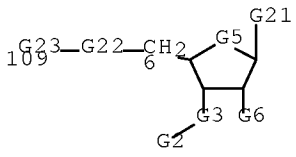
G8 = (1-6) CH2
G9 = 20

G21 = 63

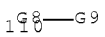


Patent location: claim 32

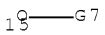
MSTR 4



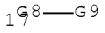
G2 = 110



G5 = O
G6 = 15

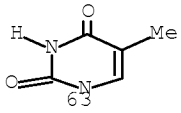


G7 = 17

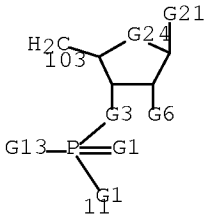


G8 = (1-6) CH2
G9 = 20

G21 = 63

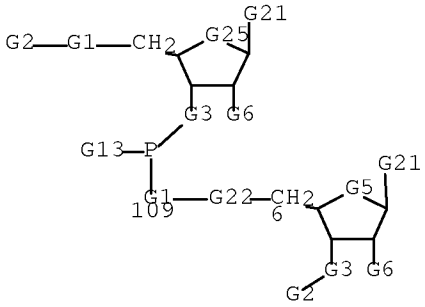


G22 = (0-3) 103-109 11-6

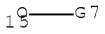


Patent location: claim 35
Note: oligonucleotides containing additional nucleotide units also claimed

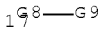
MSTR 5



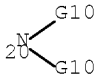
G6 = 15



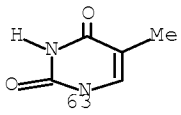
G7 = 17



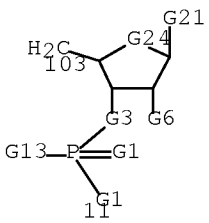
G8 = (1-6) CH2
G9 = 20



G21 = 63



G22 = (0-3) 103-109 11-6



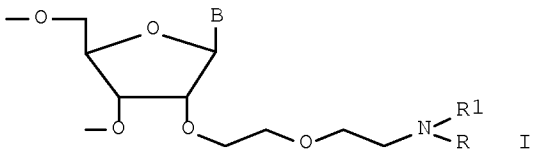
G24 = O
Patent location: claim 35
Note: oligonucleotides containing additional nucleotide units also claimed

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 17 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 139:96329 MARPAT Full-text
TITLE: 2'-O-Aminoethyloxyethyl-modified oligonucleotides and their use for inhibiting gene expression
INVENTOR(S): Manoharan, Muthiah; Cook, Phillip Dan
PATENT ASSIGNEE(S): ISIS Pharmaceuticals, Inc., USA
SOURCE: U.S., 26 pp., Cont.-in-part of U.S. 6,043,352.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6600032	B1	20030729	US 1999-370625	19990806
US 6043352	A	20000328	US 1998-130566	19980807
US 6673912	B1	20040106	US 2002-121135	20020411
US 20040009938	A1	20040115	US 2003-359328	20030206
PRIORITY APPLN. INFO.:			US 1998-130566	19980807
			US 1999-370625	19990806

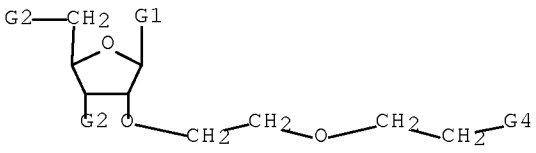
GI



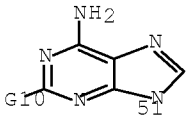
I

AB 2'-O-Modified ribosyl nucleosides and modified oligomeric compds. containing such nucleosidic monomers I, wherein R and R1 are independently H, nitrogen protecting group, alkyl, alkenyl, alkynyl; R and R1 together are nitrogen protecting group, joined in N- and O-containing heterocycle, are disclosed. Oligomeric compds. are disclosed that have increased binding affinity as shown by mol. modeling expts. The 2'-O-modified nucleosides of the invention include ring structures that position the sugar moiety of the nucleosides preferentially in 3' endo geometries.

MSTR 1



G1 = 51



G4 = 20

Patent location: claim 1

REFERENCE COUNT: 114 THERE ARE 114 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 18 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 137:268427 MARPAT Full-text
TITLE: Antitumoral, antiviral, antibacterial, antiparasitic, anti-inflammatory, immunomodulatory and antimycotic medicinal preparation, method for production and dosage forms thereof
INVENTOR(S): Travkin, Oleg Viktorovich; Yakovleva, Elena Vladimirovna
PATENT ASSIGNEE(S): Russia
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2002074311	A1	20020926	WO 2002-RU117	20020318

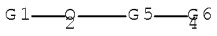
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, RU

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

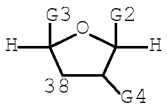
RU 2197248	C2	20030127	RU 2001-107818	20010320
AU 2002308901	A1	20021003	AU 2002-308901	20020318
PRIORITY APPLN. INFO.:			RU 2001-107818	20010320
			WO 2002-RU117	20020318

AB The invention relates to medicine, pharmacol. and to the chemical and pharmaceutical industry. The aim of the invention is to develop a new medicinal preparation having high activity and having a large range of the above mentioned non-specific pharmacol. action, and a production method for all presently known dosage forms. The novelty of the invention lies in a biol. active part of the preparation which contains a mixture of acridoneacetic acid or the derivs. thereof with monosubstituted ethers of monosaccharides, the biol. active part being heat-treated together with a pharmaceutically acceptable carrier at temps. ranging from 80 ℃ to 120 ℃. The medicinal preparation containing ANANDIN exhibits higher efficiency. ANANDIN is embodied in the form of a mixture of N-acridoneacetic acid (glucoaminopropylcarbacridone) and 3-O-(N,N-dimethylamino-n-propyl)-1.2:5.6-di-O-isopropylidene-α,D- glucofuranose (dimethylaminopropylglucofuranose). The inventive medicinal preparation is embodied in the form of all known dosage forms. Six series of examples for producing the preparation and the dosage forms thereof, detailed information on the exptl. estimate of all biol. activities enumerated in the title provided with 7 tables of comparative measuring are also disclosed. The results demonstrate that a new, easily produced, stable, medicinal preparation usable for all dosage forms is created. The biol. activity of said preparation exceeds the biol. activity of analogous prepns., and the range of pharmacol. action thereof is non-specific and unusually large.

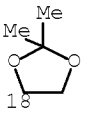
MSTR 2



G1 = 38



G2 = CH2Ph
G3 = 18



G5 = G8
G6 = NH2
G8 = (1-6) CH2
Patent location: claim 1
Note: and hemiacetal or hemiketal forms
Note: substitution is restricted

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 19 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 135:195751 MARPAT Full-text
TITLE: Preparation of DNA having improved hybridization affinity and nuclease resistance via alkylation of nucleosides with cyclic sulfates
INVENTOR(S): Fraser, Allister S.; Manoharan, Muthiah; Cook, Phillip Dan; Jung, Michael E.; Kawasaki, Andrew M.
PATENT ASSIGNEE(S): Isis Pharmaceuticals, Inc., USA
SOURCE: U.S., 45 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

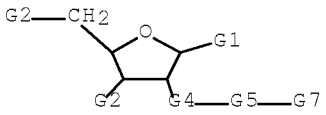
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 6277982	B1	20010821	US 1999-378665	19990820

PRIORITY APPLN. INFO.: US 1999-378665 19990820
OTHER SOURCE(S): CASREACT 135:195751
GI

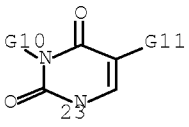
* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Methods for the alkylation of alcs., amines and thiols by the use of cyclic sulfates are disclosed. The alkylated sulfates formed are versatile intermediates which may be further elaborated by methods of the invention. In particular, methods for the alkylation of the 2', 3' or 5'-hydroxy position of nucleosides and nucleoside analogs with cyclic sulfates to form the 2', 3' or 5'-O-alkyl sulfate modified compds. are disclosed. Displacement of the 2',3' or 5'-O-sulfate with a nucleophile provides 2', 3' or 5'-O-modified nucleosides and nucleoside analogs useful for the synthesis of oligodeoxyribonucleotide compds. having improved hybridization affinity and nuclease resistance. A process for preparing a compound AX(CR1R2)nOSO2O-Y+ (I) wherein: A is a carbohydrate, oligonucleotide, nucleotide, or nucleoside; X is a O, S, or N; R1 and R2 are independently H, alkyl, aryl, O-alkyl, O-aryl, carboxylic acid, amide, ester, halogen, trifluoromethyl, or amine; n is 2-10; and, Y is H, Li, Na, K, Cs or an amine; comprising the steps of: treating a compound of formula A-X-H with cyclic sulfate II [QM is (CR1R2)n] to give I. Thus, alkylation of nucleoside III (R3 = H) with II (QM = CH2CH2) gave III (R3 = CH2CH2OSO3Na) which was used in the preparation of DNA duplexes as nuclease resistant and antiviral agent (no data).

MSTR 7



G1 = 23



G4 = O
G5 = G9
G7 = NH2 (opt. substd.)
G9 = (2-3) CH2 (opt. substd.)
Patent location: claim 50

REFERENCE COUNT: 107 THERE ARE 107 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 20 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 134:37974 MARPAT Full-text
TITLE: RNA polynucleotide modified at the ribose 2'-OH position that are still capable of acting as templates in polymerization reactions
INVENTOR(S): Goldsborough, Andrew Simon
PATENT ASSIGNEE(S): Cyclops Genome Sciences Ltd., UK
SOURCE: PCT Int. Appl., 187 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

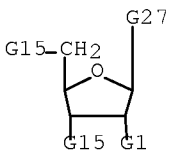
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000075306	A2	20001214	WO 2000-GB1670	20000502
WO 2000075306	A3	20010517		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
WO 2001094626	A1	20011213	WO 2000-GB1683	20000502
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU,				

LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE,
SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE,
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF,
CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

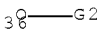
EP 1196631	A1	20020417	EP 2000-929665	20000502
EP 1196631	B1	20061206		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, CY				
AT 347616	T	20061215	AT 2000-929665	20000502
US 20030039985	A1	20030227	US 2001-11495	20011026
US 6867290	B2	20050315		
US 20050272679	A1	20051208	US 2005-57808	20050214
PRIORITY APPLN. INFO.:			GB 1999-10154	19990430
			GB 1999-10156	19990430
			GB 1999-10157	19990430
			GB 1999-10158	19990430
			WO 2000-GB1670	20000502
			WO 2000-GB1683	20000502
			WO 2000-GB1687	20000502
			US 2001-11495	20011026

AB Provided is a polynucleotide comprising mRNA, rRNA or viral RNA, greater than 25% of the ribose rings of which are covalently modified at the 2'-OH position. Further provided is a method for producing a double-stranded oligo- or polynucleotide from a template, which comprises contacting the template with a plurality of mononucleotides comprising UTP, dTTP and/or dUTP, ATP and/or dATP, GTP and/or dGTP, and CTP and/or dCTP, in the presence of a nucleic acid polymerase and optionally a template primer under conditions to polymerize the mononucleotides to form a nucleic acid strand complementary to the template, wherein the template comprises an oligo- or polyribonucleotide, a proportion of the ribose rings of which are covalently modified at the 2' -OH position to bear a substituent which enables replication of the template by the nucleic acid polymerase. Thus, for example, RNA may be modified by formylation at the ribose 2'-OH position and still serve as an excellent template for reverse transcriptases. The consequence of modifying the ribose 2'-OH groups is to increase the stability and intactness of the RNA, allowing complete cDNA copes and accurate measurements of its size and abundance to be made. It is preferable to choose 2'-OH modifications that provide the maximum stability to the modified RNA, yet can be readily removed under mild conditions without leading to RNA chain cleavage. A wide variety of acylation, acetylation, and other modification reaction reagents and catalysts are described. Also provided is use of a polynucleotide comprising mRNA, rRNA or viral RNA, a proportion of the ribose rings of which are covalently modified at the 2' -OH position, in a hybridization reaction. RNA modified by acetylation has altered hybridization properties, probably reflecting a lower Tm of the hybrid, and standard conditions for Northern blotting are probably too stringent and a lower temperature should be chosen.

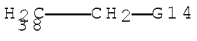
MSTR 1



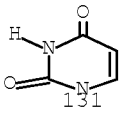
G1 = 36



G2 = 38



G14 = NH2
G27 = 131



Patent location: claim 1

L13 ANSWER 21 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 133:344607 MARPAT Full-text
TITLE: Bispecific antisense oligonucleotides inhibiting both bcl-2 and bcl-xL expression for tumor cell apoptosis induction
INVENTOR(S): Zangemeister-Wittke, Uwe; Ludke, Gerd; Huesken, Dieter
PATENT ASSIGNEE(S): Universitat Zurich, Switz.
SOURCE: PCT Int. Appl., 38 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

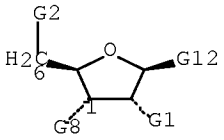
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000066724	A2	20001109	WO 2000-EP3708	20000426
WO 2000066724	A3	20010208		
W: AE, AL, AU, BA, BG, BR, CA, CN, CZ, EE, GE, HR, HU, ID, IL, IN, JP, KR, LT, LV, MK, MX, NO, NZ, PL, RO, SG, SI, SK, TR, UA, US, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
EP 1181361	A2	20020227	EP 2000-925239	20000426
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				

PRIORITY APPLN. INFO.: GB 1999-10119 19990430
WO 2000-EP3708 20000426

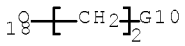
AB The present invention relates to antisense oligonucleotide derivs. directed against human bcl-xL mRNA and being capable of modulating the biosynthesis of

human bcl-xL protein. Furthermore, the present invention relates to antisense oligonucleotide derivs. directed against both human bcl-xL mRNA and human bcl-2 mRNA, and being capable of modulating the biosynthesis of both human bcl-xl protein and human bcl-2 protein. The present invention further relates to a pharmaceutical composition comprising such oligonucleotide derivs., uses thereof and methods of treatment and diagnosis utilizing such oligonucleotide derivs. Bcl-2 and bcl-xL are inhibitors of apoptosis frequently overexpressed in solid tumors. The bcl-2 and bcl-xL mRNAs share a region of homol. comprising nucleotides 605-624 and 687-706, resp., which differs by only 3 nucleotides. This sequence does not occur in the proapoptotic splice variant bcl-xS. To test the possibility that oligonucleotides targeting this region have the potential to down-regulate bcl-2 and bcl-xL expression simultaneously, 3 2'-O-methoxy-ethoxy-modified phosphorothioate oligonucleotides were designed. These oligonucleotides differed in the number of mismatches to bcl-2 and bcl-xL and in the number of nucleotides to which the modifications were made. The effects of these oligonucleotides on bcl-2 and bcl-xL expression, as well as their abilities to induce apoptosis, were assessed in small cell and non-small cell lung cancer cell lines expressing different basal levels of bcl-2 and bcl-xL. Although all oligonucleotides down-regulated bcl-2 and bcl-xL expression, oligonucleotide 4625, which has no mismatching nucleotides to bcl-2 but 3 to bcl-xL, 2 of which were modified by 2'-O-methoxy-ethoxy residues, showed the strongest bispecific activity on the transcript and protein level. In all cell lines this bispecific activity induced apoptotic cell death, as demonstrated by increased uptake of propidium iodide, a 10-100-fold increase in caspase-3-like protease activity, and nuclear condensation, and fragmentation. This is the 1st report of a bcl-2/bcl-xL bispecific antisense oligonucleotide that deserves attention as a therapeutic compound in lung cancer and other malignancies in which bcl-2 and/or bcl-xL are overexpressed.

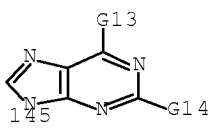
MSTR 1



G1 = 18



G10 = NH2
G12 = 145

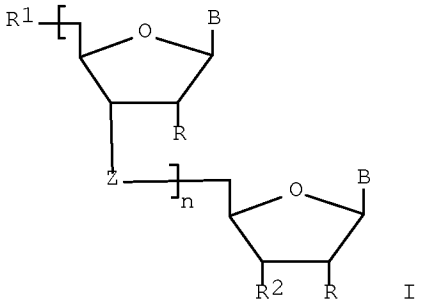


Patent location: claim 8
Note: substitution is restricted

L13 ANSWER 22 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 133:164272 MARPAT Full-text
TITLE: Preparation of mixed backbone antisense oligodeoxyribonucleotides as inhibitors of c-raf mRNA synthesis
INVENTOR(S): Manoharan, Muthiah; Maier, Martin A.
PATENT ASSIGNEE(S): Isis Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 53 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000047593	A1	20000817	WO 2000-US3543	20000211
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6207819	B1	20010327	US 1999-250075	19990212
EP 1159282	A1	20011205	EP 2000-908597	20000211
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002536453	T	20021029	JP 2000-598512	20000211
US 20010016652	A1	20010823	US 2000-726096	20001129
US 6462184	B2	20021008		
US 20030045698	A1	20030306	US 2002-117267	20020405
PRIORITY APPLN. INFO.:			US 1999-250075	19990212
			WO 2000-US3543	20000211
			US 2000-726096	20001129

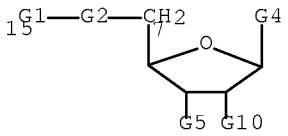
GI



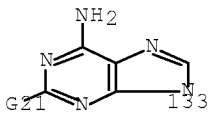
I

AB Synthetic processes are provided wherein mixed backbone oligomeric compds. I (B = heterocycle; Z = independently phosphodiester, phosphoramidate, boranophosphate; R = independently H, OH, protected OH; R1, R2 = independently OH, protected OH; n > 1) are prepared having at least one phosphodiester internucleoside linkage in addition to one or more phosphorothioate, phosphoramidate and boranophosphate internucleoside linkages. Novel H-phosphonate intermediates are also disclosed that are useful in the synthetic processes. The synthetic processes use a novel oxidation step to oxidize H-phosphonate internucleoside linkages to phosphodiester internucleoside linkages without degradation of adjacent phosphorothioate, phosphoramidate and boranophosphate internucleoside linkages. Thus, 5'-O-DMT-2'-MOE-N-isobutyrylguanosine-3'-H-phosphonate was prepared and incorporated into antisense oligodeoxyribonucleotide as inhibitor of c-raf mRNA synthesis. 2-(1H-benzotriazole-1-yl)-1,1,3,3- tetramethyluronium hexafluorophosphate, O-(azabenzotriazol-1-yl)-1,1,3,3- tetra-Me uronium hexafluorophosphate, 6-(trifluoromethyl)benzotriazol-1-yl- oxy-tris-pyrrolidino-phosphonium hexafluorophosphate, bromo-tris- pyrrolidino-phosphonium hexafluorophosphate, benzotriazole-1-yl-oxy-tris- pyrrolidino-phosphonium hexafluorophosphate or 2-(benzotriazol-1-yloxy)- 1,3-dimethyl-2-pyrrolidin-1-yl-1,3,2-diazaphospholidinium hexafluorophosphate.

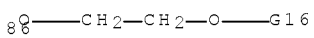
MSTP 1



G4 = 133



G10 = 86



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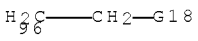
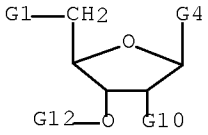


G18 = NH2
Patent location: claim 1

MSTR 2



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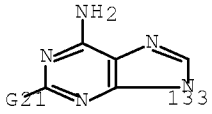

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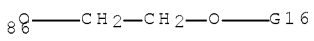

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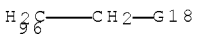


G18 = NH2
Patent location: claim 1

REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

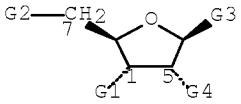
L13 ANSWER 23 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 132:251377 MARPAT Full-text
TITLE: Preparation os 3',5'-cyclic phosphate nucleotides directed to bio-catalysts having cyclic phosphodiesterase activity
INVENTOR(S): Ghisalba, Oreste; Marais, Guy Joel Christian; Martin, Pierre
PATENT ASSIGNEE(S): Isis Pharmaceuticals, Inc., USA; Novartis Ag
SOURCE: PCT Int. Appl., 39 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000020429	A1	20000413	WO 1999-US23244	19991005
W:	AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
RW:	GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG			
US 6147211	A	20001114	US 1998-167191	19981006
AU 9962920	A1	20000426	AU 1999-62920	19991005
US 6340754	B1	20020122	US 2000-664596	20000918
PRIORITY APPLN. INFO.:			US 1998-167191	19981006
			WO 1999-US23244	19991005

AB The present invention provides 3',5'-cyclic phosphate nucleotide compds. The present invention is further directed to processes for cleaving the cyclic phosphate moiety of the 3',5'-cyclic phosphate compds. of the present invention by treating the compds. with a biocatalyst. The present invention is also directed to bio-catalysts having cyclic phosphodiesterase activity.

MSTR 1



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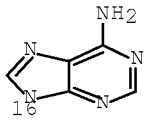
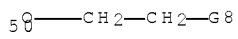


G4 = 50



G8 = NH2
Patent location: claim 1

Note: additional ring formation also claimed
Note: substitution is restricted
Note: also incorporates claim 13

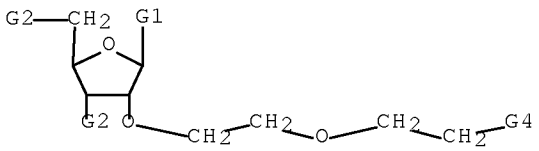
REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 24 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 132:176562 MARPAT Full-text
TITLE: 2'-O-Aminoethyloxyethyl-modified oligonucleotides and their use for inhibiting gene expression
INVENTOR(S): Manoharan, Muthiah; Cook, Phillip Dan
PATENT ASSIGNEE(S): Isis Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

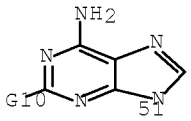
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2000008044	A1	20000217	WO 1999-US17895	19990806
W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW				
RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
US 6043352	A	20000328	US 1998-130566	19980807
CA 2339178	A1	20000217	CA 1999-2339178	19990806
AU 9954693	A	20000228	AU 1999-54693	19990806
AU 750469	B2	20020718		
EP 1102787	A1	20010530	EP 1999-940938	19990806
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
JP 2002522449	T	20020723	JP 2000-563677	19990806
PRIORITY APPLN. INFO.:			US 1998-130566	19980807
			WO 1999-US17895	19990806

AB 2'-O-Modified ribosyl nucleosides and modified oligomeric compds. containing such nucleosidic monomers are disclosed. Oligomeric compds. are disclosed that have increased binding affinity as shown by mol. modeling expts. The 2'-O-modified nucleosides of the invention include ring structures that position the sugar moiety of the nucleosides preferentially in 3' endo geometries.

MSTR 1



G1 = 51



G4 = 20

Patent location: claim 1

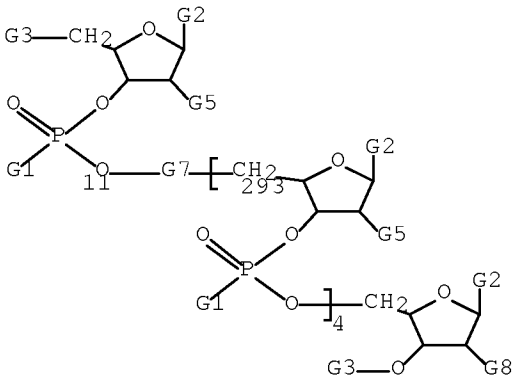
REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 25 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 129:270610 MARPAT Full-text
TITLE: Antisense inhibition and diagnostic agents of angiogenin expression and inhibiting tumors associated with angiogenesis
INVENTOR(S): Fett, James W.; Olson, Karen A.
PATENT ASSIGNEE(S): President and Fellows of Harvard College, USA
SOURCE: PCT Int. Appl., 72 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

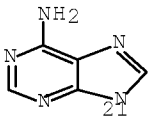
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9842722	A1	19981001	WO 1998-US5651	19980320
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW				
RW: GH, GM, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9865782	A	19981020	AU 1998-65782	19980320
EP 970102	A1	20000112	EP 1998-911943	19980320
R: CH, DE, FR, GB, IT, LI				
US 6265388	B1	20010724	US 1998-45301	19980320
CA 2293591	A1	19981001	CA 1998-2293591	19980328
US 20020019359	A1	20020214	US 2001-863777	20010523
PRIORITY APPLN. INFO.:			US 1997-41182P	19970321
			US 1998-45301	19980320
			WO 1998-US5651	19980320

AB Disclosed are oligonucleotide compds. that inhibit the expression of angiogenin when administered to a mammal. Sense and antisense phosphorothioate oligodeoxynucleotides were designed based on the nucleic acid sequences of the angiogenin gene encompassing the AUG initiation codon and transcriptional start site regions, the 3'-termination site, and the 5'-TATA box site. Thus, phosphorothioated 5'-GCCCATCACCATCTCTTC-3' (JF2S) in combination with lipofectin inhibited in vitro production of angiogenin by 30-38% in PC-3 and HT-29 tumor cell types in comparison to treatment with lipofectin alone or with the control sense oligonucleotide. High doses of antisense JF2S also protected 50% of mice from forming regional lymph node metastasis in an orthotopic model of human prostate cancer metastasis in athymic mice. Also disclosed are methods and pharmaceutical compns. for inhibiting the expression of angiogenin useful in therapy or diagnosis.

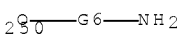
MSTR 1



G2 = 21



G5 = 250



G6 = (1-10) CH2
Patent location: claim 13

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 26 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 128:89088 MARPAT Full-text

TITLE: Preparation of 2'-substituted antisense oligoribonucleotide duplexes and triplexes as antitumors

INVENTOR(S): Cuenoud, Bernard; Altmann, Karl-Heinz; Martin, Pierre; Moser, Heinz

PATENT ASSIGNEE(S): Novartis A.-G., Switz.; Cuenoud, Bernard; Altmann, Karl-Heinz; Martin, Pierre; Moser, Heinz

SOURCE: PCT Int. Appl., 141 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

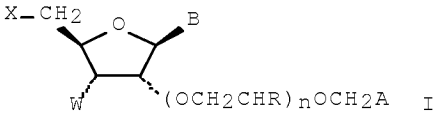
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9746569	A2	19971211	WO 1997-EP2738	19970527
WO 9746569	A3	19980219		
W: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2256765	A1	19971211	CA 1997-2256765	19970527
AU 9730297	A	19980105	AU 1997-30297	19970527
EP 906329	A2	19990407	EP 1997-924997	19970527
EP 906329	B1	20031008		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
JP 2000512630	T	20000926	JP 1998-500187	19970527
AT 251638	T	20031015	AT 1997-924997	19970527
ZA 9704952	A	19971208	ZA 1997-4952	19970605
US 6670468	B1	20031230	US 2001-753943	20010103
US 20050159374	A1	20050721	US 2003-696488	20031029

PRIORITY APPLN. INFO.: CH 1996-1432 19960606
WO 1997-EP2738 19970527
US 1999-194844 19990514
US 2001-753943 20010103

GI

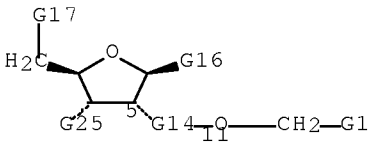


I

AB Antisense oligodeoxyribonucleotide duplexes and triplexes which comprises at least one nucleoside building block of the formula I (R = H, Me, Et, alkoxymethyl; n = 0-2; A = alkylamine, N-containing heterocycle; B = nucleobase; X, W = independently OH, internucleosidic bridge) were prepared as antitumors. Antitumor activities of antisense oligodeoxyribonucleotides were 9-42 expressed as T/C % (mean increase of tumor vols. of treated animals

divided by the mean increase of tumor vols. control animals multiplied by 100).

MSTR 1



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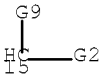

G2 = NH2
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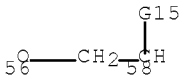

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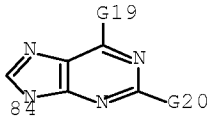

Derivative: and salts
Patent location: claim 1

L13 ANSWER 27 OF 27 MARPAT COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 124:261619 MARPAT Full-text
TITLE: Solution phase synthesis of oligonucleotides.
INVENTOR(S): Ravikumar, Vasulinga; Cole, Douglas L.
PATENT ASSIGNEE(S): Isis Pharmaceuticals, Inc., USA
SOURCE: PCT Int. Appl., 55 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9532980	A1	19951207	WO 1995-US6825	19950526
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RW: KE, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
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AU 9526570	A	19951221	AU 1995-26570	19950526
EP 766688	A1	19970409	EP 1995-921510	19950526
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
US 6294664	B1	20010925	US 1997-737875	19970117
PRIORITY APPLN. INFO.:			US 1994-249442	19940526
			US 1993-99075	19930729
			WO 1995-US6825	19950526

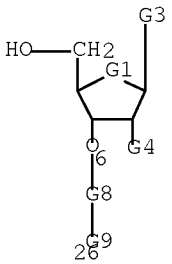
OTHER SOURCE(S): CASREACT 124:261619

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB Title compds. (I; Q = O, s, CH2, CHF, CF2; B = nucleosidic base; X = OH, SH, SMe, F, OCN, aminoalkoxy, alkoxy, alkyl, alkylaryl, aralkyl, Cl, Br, CN, CF3, OCF3, SOMe, amino, polyalkylamino, aminoalkylamino, N3, substituted silyl, RNA cleaving group, conjugate, reporter group, intercalator, group for improving the pharmacokinetic or pharmacodynamic properties of an oligonucleotide, etc.; W, Y = protecting group; Z = O, S; T = phosphorus blocking group; n = 0-50), were prepared by reaction of synthon (II) with synthon (III; U = phosphite activating group). Thus, 5'-O-(4,4'-dimethoxytrityl)-3'-O-[(N,N-diisopropylamino)-2- (diphenylmethylsilyl)ethoxyphosphino]deoxyguanosine and tetrazole were stirred 15 min. in MeCN; 3'-(O-levulinyl)thymidine phosphorothioate dimer (preparation given) in MeCN was added. After 15 min the solution was cooled to 0° and treated with 3H-1,2-benzodithiol-3-one 1,1-dioxide to give 5'-(O-4,4-dimethoxytrityl)-3'-(O-levulinyl)-dG-T-T phosphorothioate trimer.

MSTR 1



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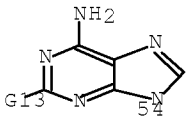
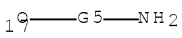
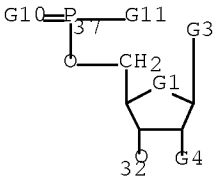
G3 = 54



G4 = 17



G5 = (1-10) CH2
G8 = (0-5) 37-6 32-26



Patent location: claim 1
Note: G8 may contain a maximum of 50 nucleotide units

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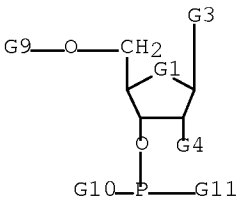

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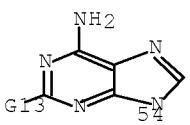
G3 = 54



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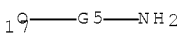

G5 = (1-10) CH2
Patent location: claim 1

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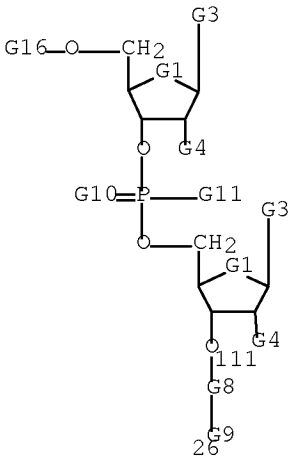

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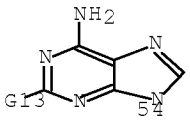

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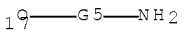
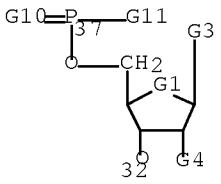
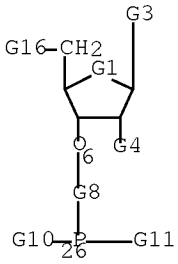


G5 = (1-10) CH2
G8 = (0-4) 37-111 32-26

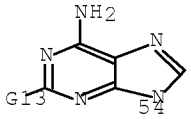


Patent location: claim 1
Note: G8 may contain a maximum of 50 nucleotide units

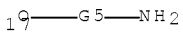
MSTR 5



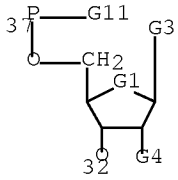
G1 = O
G3 = 54



G4 = 17



G5 = (1-10) CH2
G8 = (1-5) 37-6 32-26



Patent location: claim 14
Note: G8 may contain a maximum of 200 nucleotide units

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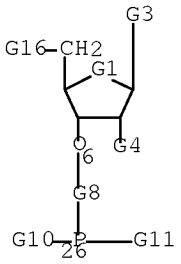
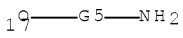
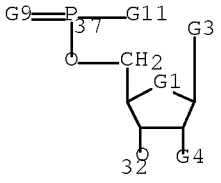


G1 = O
G3 = 54

G4 = 17



G5 = (1-10) CH2
G8 = (1-5) 37-6 32-26



Patent location: claim 14
Note: G8 may contain a maximum of 200 nucleotide units

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FILE 'BEILSTEIN' ENTERED AT 16:55:01 ON 23 MAY 2008
COPYRIGHT (c) 2008 Beilstein-Institut zur Foerderung der Chemischen Wissenschaften
licensed to Beilstein GmbH and MDL Information Systems GmbH

FILE LAST UPDATED ON April 1, 2008

FILE COVERS 1771 TO 2008.
*** FILE CONTAINS 10.322,808  SUBSTANCES ***

>>>PLEASE NOTE: Reaction Data and substance data are stored in
   separate documents and can not be searched together in one query.
   Reaction data for BEILSTEIN compounds may be displayed
   immediately with the display codes PRE (preparations) and REA
   (reactions).  A substance answer set retrieved after the search
   for a chemical name, a compounds with available reaction
   information by combining with PRE/FA, REA/FA or more generally
   with RX/FA. The BEILSTEIN Registry Number (BRN) is the link
   between a BEILSTEIN compound and belonging reactions. For mo
   detailed reaction searches BRNs can be searched as reaction
   partner BRNs Reactant BRN (RX.RBRN) or Product BRN (RX.PBRN).<<<

>>> FOR SEARCHING PREPARATIONS SEE HELP PRE  <<<

**********************************************************************
* PLEASE NOTE THAT THERE ARE NO FORMATS FREE OF COST.                 *
* SET NOTICE FEATURE: THE COST ESTIMATES CALCULATED FOR SET NOTICE    *
* ARE BASED ON THE HIGHEST PRICE CATEGORY. THEREFORE; THESE           *
* ESTIMATES MAY NOT REFLECT THE ACTUAL COSTS.                         *
* FOR PRICE INFORMATION SEE HELP COST                                 *
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>>> Price change as of January 1st, 2008: Connect Time and Structure
    Search fees re-introduced. See NEWS and HELP COST <<<

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L1              STR
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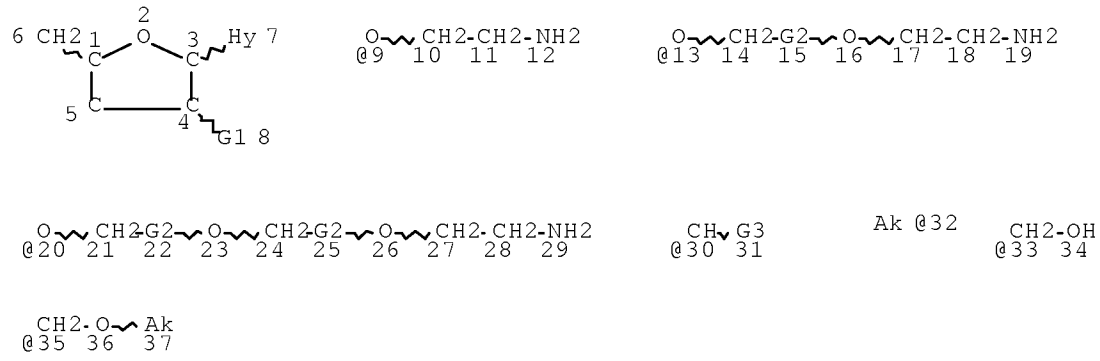


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VAR G2=CH2/30
VAR G3=32/33/35
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GGCAT   IS LOC  SAT  AT  32
GGCAT   IS LOC  SAT  AT  37
DEFAULT ECLEVEL IS LIMITED

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RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  37

STEREO ATTRIBUTES: NONE
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      11091324 BABSAN/FA
L14           2 L9 NOT BABSAN/FA

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=> s l9 and 6181867/babsan
              5 6181867/BABSAN
L16           0 L9 AND 6181867/BABSAN

=> s l9 or l14
L17           3 L9 OR L14

=> d l17 ide allref tot


L17  ANSWER 1 OF 3 BEILSTEIN COPYRIGHT 2008 BEILSTEIN MDL on STN

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                                     dimethyl-silanyloxy)-5-(tert-butyl-
                                     dimethyl-silanyloxymethyl)-tetrahydro-
                                     furan-2-yl>-6-oxo-6,9-dihydro-1H-purin-2-
                                     yl>-isobutyramide
     Autonom Name (AUN):             N-<9-<3-(2-amino-ethoxy)-4-(tert-butyl-
                                     dimethyl-silanyloxy)-5-(tert-butyl-
                                     dimethyl-silanyloxymethyl)-tetrahydro-
                                     furan-2-yl>-6-oxo-6,9-dihydro-1H-purin-2-
                                     yl>-isobutyramide
     Molec. Formula (MF):            C28 H52 N6 O6 Si2
     Molecular Weight (MW):          624.93
     Lawson Number (LN):             30733, 20554, 3798, 3777, 3122, 1174
     File Segment (FS):              Stereo compound
     Compound Type (CTYPE):          heterocyclic
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     Tautomer ID (TAUTID):           9480720
     Entry Date (DED):               2006/02/02
     Update Date (DUPD):             2006/02/02
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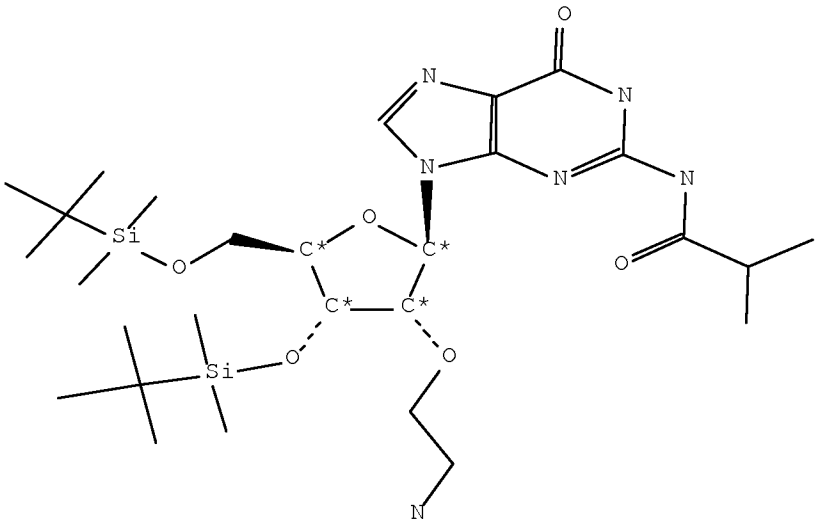

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AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	6
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
ED	Entry Date	1
UPD	Update Date	1

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	2
RXREA	Substance is Reaction Reactant	1
RXPRO	Substance is Reaction Product	1

All References:
ALLREF

1. Jin, Shengxi; Miduturu, Chandrasekhar V.; McKinney, David C.; Silverman, Scott K., J. Org. Chem., CODEN: JOCEAH, SIR70(11), <2005>, 4284 - 4299; BABS-6509342

L17 ANSWER 2 OF 3 BEILSTEIN COPYRIGHT 2008 BEILSTEIN MDL on STN

Beilstein Records (BRN): 10133679
Chemical Name (CN): N-<9-<3-(2-amino-ethoxy)-4-(tert-butyl-

	dimethyl-silanyloxy)-5-(tert-butyl-dimethyl-silanyloxymethyl)-tetrahydro-furan-2-yl>-9H-purin-6-yl>-isobutyramide
Autonom Name (AUN):	N-<9-<3-(2-amino-ethoxy)-4-(tert-butyl-dimethyl-silanyloxy)-5-(tert-butyl-dimethyl-silanyloxymethyl)-tetrahydro-furan-2-yl>-9H-purin-6-yl>-isobutyramide
Molec. Formula (MF):	C28 H52 N6 O5 Si2
Molecular Weight (MW):	608.93
Lawson Number (LN):	30692, 20554, 3798, 3777, 3122, 1174
File Segment (FS):	Stereo compound
Compound Type (CTYPE):	heterocyclic
Constitution ID (CONSID):	8517443
Tautomer ID (TAUTID):	9479728
Entry Date (DED):	2006/02/02
Update Date (DUPD):	2006/02/02

AX

Field Availability:

Code	Name	Occurrence
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CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	6
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
ED	Entry Date	1
UPD	Update Date	1

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	2
RXREA	Substance is Reaction Reactant	1
RXPRO	Substance is Reaction Product	1

All References:
ALLREF

1. Jin, Shengxi; Miduturu, Chandrasekhar V.; McKinney, David C.; Silverman, Scott K., J. Org. Chem., CODEN: JOCEAH, SIR70(11), <2005>, 4284 - 4299; BABS-6509342

L17 ANSWER 3 OF 3 BEILSTEIN COPYRIGHT 2008 BEILSTEIN MDL on STN

Beilstein Records (BRN):	8373330
Chemical Name (CN):	2'-O-<2-(amino)ethyl>-5'-O-(4,4'-dimethoxytrityl)-5-methyluridine
Autonom Name (AUN):	1-<3-(2-amino-ethoxy)-5-<bis-(4-methoxy-phenyl)-phenyl-methoxymethyl>-4-hydroxy-tetrahydro-furan-2-yl>-5-methyl-1H-pyrimidine-2,4-dione
Molec. Formula (MF):	C33 H37 N3 O8
Molecular Weight (MW):	603.67
Lawson Number (LN):	28796, 20554, 6582, 3122, 289
File Segment (FS):	Stereo compound
Compound Type (CTYPE):	heterocyclic
Constitution ID (CONSID):	7108715
Tautomer ID (TAUTID):	7887954
Entry Date (DED):	2000/03/08
Update Date (DUPD):	2008/01/25

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

Field Availability:

Code	Name	Occurrence
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CN	Chemical Name	1
AUN	Autonomname	1
MF	Molecular Formula	1
FW	Formular Weight	1
LN	Lawson Number	5
FS	File Segment	1
CTYPE	Compound Type	1
CONSID	Constitution ID	1
TAUTID	Tautomer ID	1
ED	Entry Date	1
UPD	Update Date	1
NMR	Nuclear Magnetic Resonance	3

This substance also occurs in Reaction Documents:

Code	Name	Occurrence
RX	Reaction Documents	3
RXREA	Substance is Reaction Reactant	2
RXPRO	Substance is Reaction Product	1

All References:
ALLREF

1. Prakash, Thazha P.; Pueschl, Ask; Manoharan, Muthiah, Nucleosides, Nucleotides & Nucleic Acids, CODEN: NNNAFY, 26(2), <2007>, 149 - 159; BABS-6693986
2. Prakash, Thazha P.; Pueschl, Ask; Lesnik, Elena; Mohan, Venkatraman; Tereshko, Valentina; Egli, Martin; Manoharan, Muthiah, Org. Lett., CODEN: ORLEF7, 6(12), <2004>, 1971 - 1974; BABS-6459911
3. Manoharan, Muthiah; Prakash, Thazha P.; Barber-Peoc'h, Isabelle; Bhat,

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         Balkrishen; Vasquez, Guillermo; Ross, Bruce S.; Cook, P. Dan,
         J.Org.Chem., CODEN: JOCEAH, 64(17), <1999>, 6468 - 6472; BABS-6182585
      4. Manoharan, Muthiah; Prakash, Thazha P.; Barber-Peoc'h, Isabelle; Bhat,
         Balkrishen; Vasquez, Gulliermo; Ross, Bruce S.; Cook, P. Dan,
         Nucleosides Nucleotides, CODEN: NUNUD5, 18(6-7), <1999>, 1199 - 1202;
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=> d his nofil

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L3           4 SEA SSS FUL L1
               D SCA

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L4           9 SEA ABB=ON  PLU=ON  L3

     FILE 'WPIX' ENTERED AT 16:45:52 ON 23 MAY 2008
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L6           1 SEA SSS FUL L1
L7           1 SEA ABB=ON  PLU=ON  L6/DCR

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               6459911/AN OR 6693986/AN)
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     FILE 'WPIX' ENTERED AT 16:49:13 ON 23 MAY 2008
               D QUE L7

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               D QUE L12

     FILE 'CAPLUS, WPIX, MARPAT' ENTERED AT 16:49:24 ON 23 MAY 2008
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               D L13 IBIB ABS QHIT 11-27

     FILE 'BEILSTEIN' ENTERED AT 16:55:01 ON 23 MAY 2008
               D QUE L9
L14          2 SEA ABB=ON  PLU=ON  L9 NOT BABSAN/FA
```

```
L15             0 SEA ABB=ON  PLU=ON  L9 AND 6509342/BABSAN
L16             0 SEA ABB=ON  PLU=ON  L9 AND 6181867/BABSAN
L17             3 SEA ABB=ON  PLU=ON  L9 OR L14
                  D L17 IDE ALLREF TOT
```